

Claims: Claims 1-11 and 23-27 are withdrawn from consideration. Claims 19, 28, 38 are amended in this office action response. Additions to claims are indicated by underlining. Deletions from claims are indicated by strikethroughs. Claims 12-18, 22, and 31-37 are canceled in this office action response. Claims 40 and 41 are added in this office action response. Upon entry of this amendment, claims 1-11, 19-21, 23-30, and 38-41 will be pending in this application.

Listing of Claims:

1. (Withdrawn) An apparatus comprising:
a light source to emit light to pass through a portion of a track of windows, with the portion of the track configured to allow a different amount of the light to pass through relative to other portions of the track; and
a plurality of sensors to sense the light for encoding and indexing.
2. (Withdrawn) The apparatus of claim 1, wherein the portion includes a configuration to allow more of the light to pass through relative to the other portions of the track.
3. (Withdrawn) The apparatus of claim 1, wherein the portion includes a configuration to allow less of the light to pass through relative to the other portions of the track.
4. (Withdrawn) The apparatus of claim 1, wherein each of the plurality of sensors is configured to sense the light for encoding as well as indexing.
5. (Withdrawn) The apparatus of claim 1, wherein the sensors are linearly configured with a first and a second of the plurality of sensors disposed at both ends, configured to sense the light for indexing, while others are configured to

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sense the light for encoding.

6. (Withdrawn) The apparatus of claim 1, wherein the apparatus further comprises a code wheel, on which the windows are disposed.

7. (Withdrawn) The apparatus of claim 1, wherein
each of the plurality of sensors is configured to sense the light for encoding as well as indexing, and the sensors output signals reflective of the amount of light the sensors sensed; and
the apparatus further comprises means to process the output signals and generate derivative signals based at least in part on the output signals for encoding and indexing respectively.

8. (Withdrawn) The apparatus of claim 1, wherein the sensors include photocells.

9. (Withdrawn) The apparatus of claim 1, wherein the windows include transparent windows.

10. (Withdrawn) A position sensing method comprising:
emitting light to pass through a portion of a track of windows, the portion configured to allow a different amount of the light to pass through relative to other portions of the track; and
sensing the light.

11. (Withdrawn) The method of claim 10, wherein the method further comprises the sensors outputting signals reflective of the amount of light the sensors sensed, and processing the output signals to generate a first and a second derivative signal based at least in part on the output signals for encoding and indexing respectively.

12. (Canceled)
13. (Canceled)
14. (Canceled)
15. (Canceled)
16. (Canceled)
17. (Canceled)
18. (Canceled)
19. (Currently Amended) An apparatus comprising:
a first and a second plurality of sensors; and
a light source to emit light;
a lens having two areas with different refraction indices to emit refract the
light in two or more directions, ~~with one of the two or more directions being an~~
~~angular direction, and~~ the light to be sensed by the first and the second plurality
of sensors after passing through a first window of an encoder track, and a
second window of an index track respectively, ~~with either the first window, the~~
~~second window or both refracting the passing light.~~
20. (Original) The apparatus of claim 19, wherein the light emitted to pass the
first window of the encoder track is emitted in an angular direction.
21. (Original) The apparatus of claim 19, wherein the light emitted to pass the
second window of the index track is emitted in an angular direction.
22. (Canceled)

23. (Withdrawn) A code sheet comprising
a medium;
an encoder track of first windows disposed on the medium;
an index track of second windows disposed on the medium; and
a selected one of the first windows and the second windows have a
refractive index suitable to refract light in a predetermined angle.
24. (Withdrawn) The code sheet of claim 23, wherein the first windows have a
refractive index suitable for refracting the light in the predetermined angle.
25. (Withdrawn) The code sheet of claim 23, wherein the second windows
have a refractive index suitable for refracting lights in the predetermined angle.
26. (Withdrawn) The code sheet of claim 23, wherein the second windows
interleave with some of the first windows.
27. (Withdrawn) The code sheet of claim 23, wherein the medium has a
selected one of a wheel form factor and a linear form factor.
28. (Currently Amended) A position sensing method comprising:
emitting refracting light, using a lens having two areas with different
refraction indices, in a first direction and a second direction, ~~one of which being~~
~~an angular direction,~~ for sensing by a first and a second plurality of sensors after
passing first windows of an encoder track and second windows of an index track
respectively, ~~with either the first windows, the second windows or both refracting~~
~~the passing light;~~ and
sensing the light employing the first and second plurality of sensors.
29. (Original) The method of claim 28, wherein said emitting of light in two
directions comprises emitting lights angularly to be refracted by selected ones of

the windows of the encoder track.

30. (Original) The method of claim 28, wherein said emitting of light in two directions comprises emitting light angularly to be refracted by a selected one of the windows of the index track.

31. (Canceled)

32. (Canceled)

33. (Canceled)

34. (Canceled)

35. (Canceled)

36. (Canceled)

37. (Canceled)

38. (Currently Amended) An apparatus comprising:
first means ~~to sense~~ for sensing emitted light; and
second means for emitting and reflecting or refracting the light to emit the light in two directions, ~~with one of the two directions being an angular direction,~~ to be sensed by the first means after passing a first window of an encoder track and a second window of an index track respectively, ~~with either the first window, the second window or both refracting the passing light.~~

39. (Original) The apparatus of claim 38, wherein the apparatus further comprises a code wheel, on which the encoder and index tracks are disposed.

40. (new) An apparatus comprising:

a first and a second plurality of sensors; and
a light source including mirrors to emit light in two or more directions, with
the light to be sensed by the first and the second plurality of sensors after
passing through a first window of an encoder track, and a second window of an
index track respectively.

41. (new) A method comprising:

reflecting light from mirrors in a first direction and a second direction for
sensing by a first and a second plurality of sensors after passing first windows of
an encoder track and second windows of an index track respectively; and
sensing the light employing the first and second plurality of sensors.